

System Performance Data Sheet

Patented curtain wall technology · Dubai, United Arab Emirates · Issue 2, August 2026

Accredited performance testing

The UCS curtain wall system passed a complete accredited eight-test sequence on a single full-scale specimen at Thomas Bell-Wright International Consultants, Dubai.

LABORATORY Thomas Bell-Wright International Consultants, Dubai
ACCREDITATION ISO/IEC 17025 — UKAS Testing Laboratory No. 4439 · GCC Accreditation Center No. ATL-0017
MEMBERSHIPS EGOLF · Association for Specialist Fire Protection (ASFP) · Centre for Window and Cladding Technology (CWCT)
SPECIMEN 3.4 m (w) × 7.0 m (h) = 23.1 m², flat and vertical
REPORT QK141 · test date 17 July 2017

#	Test	Standard	Result
1	Air Infiltration	ASTM E283-04	PASSED — 4.82 m ³ /hr against 24.95 m ³ /hr permitted at 300 Pa
2	Static Water Penetration	ASTM E331-00	PASSED — 720 Pa, 15 min, no leakage
3	Dynamic Water Penetration	AAMA 501.1-05	PASSED — 720 Pa with wind generator
4	Structural Performance	ASTM E330-14	PASSED
5	Air Infiltration (repeat after structural loading)	ASTM E283-04	PASSED
6	Static Water Penetration (repeat)	ASTM E331-00	PASSED
7	Structural Proof Load @ 1.5 × design load	ASTM E330-14	PASSED
8	Structural Load Test to Failure	ASTM E330-14	PASSED

Eight tests. Eight passes.

Air leakage measured at 4.82 m³/hr against 24.95 m³/hr permitted — more than five times better than the standard requires.

Thermal performance

Frame and edge-seal thermal transmittance were determined by independent numerical simulation.

ANALYSIS BY SME Engineering GmbH / Swiss Middle East — Muri AG, Switzerland · Dubai
METHOD Flixo Pro numerical simulation
STANDARDS EN ISO 10077-1 and EN ISO 10077-2, boundary conditions per EN ISO 6946

The full U-value calculation, including frame and glazing components, is available to specifiers on request.

Patent protection

PATENT GCC Patent GC-0011850 — GCC Central Patent Office, Riyadh
VALIDITY Filed 7 February 2017 · granted 25 October 2022 · valid until 7 February 2037
COVERAGE All six GCC member states

The GCC Patent Office stopped accepting new unified patent applications in January 2021. No competitor can now obtain equivalent GCC-wide protection for a curtain wall system.

Manufacturing

UCS profiles are manufactured exclusively by Emirates Extrusion Factory, one of the largest aluminium extruders in the United Arab Emirates. The partnership was announced at the Make it in the Emirates forum and is aligned with Operation 300bn and the UAE Net Zero 2050 strategy.

Emirates Extrusion Factory manufactures under this agreement only; all sales rights remain with UCS. Profiles are extruded to exact installation dimensions and delivered direct to site — no cutting, no site workshop, no fabrication waste.

System range

System	Application
4-Way Structural Glazing	Four-edge structural bonding. Seamless frameless facades; no screw penetrates the glass.
2-Way Structural Glazing	Two-edge structural bonding. The most widely applied UCS system.
Conventional Curtain Wall	Pressure-plate system. Glass, ACP, honeycomb, stone and marble on one mullion-transom grid.
Strip Windows	Banded horizontal window runs combined with curtain wall at the same elevation.
Thermal Break Windows & Doors	Polyamide-strip insulation. Casement, sliding, pivot, fixed, swing and louvre.
Sun Breaker Systems	Solar shading integrated into the profile grid; no secondary framing.
Hand Rail & Balustrade	Structurally engineered aluminium railing. Glass, cable or solid panel infill.

Installation method

- Installed entirely from inside the building — no scaffolding, no cradles, no climber platforms.
- Installation runs floor by floor concurrent with the concrete structure, keeping the facade off the critical path.
- Approximately one tenth of the site manpower required by a conventional system.
- Error-recoverable by design: fabrication and installation deviations are corrected in place, without replacement orders.
- Drainage channels engineered into the system structure rather than added by sealant.

Track record

DELIVERED Over 200,000 m² of curtain wall installed
PROJECTS More than 50 completed projects
TERRITORIES United Arab Emirates · Qatar · Iran
ESTABLISHED Continuous facade engineering practice since 1997

Compliance targets

The system is engineered to satisfy LEED, ESTIDAMA (Abu Dhabi Pearl Rating System) and Al Sa'fat (Dubai Green Building System) envelope requirements. These are design targets and are distinct from the accredited test results above.

Contact

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Full technical documentation — including test reports, U-value calculations and system drawings — is available to consultants, architects and contractors on request via the technical documentation request form on our website.

Issue 2, August 2026. Information is believed correct at the date of issue and is subject to change. Project-specific performance must be confirmed by project-specific calculation.